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Guardsman fracture of mandible: A case report

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INTRODUCTION:

Fracture of mandible occurs more frequently than any other fractures of facial skeleton. The relative weakness of mandible in the region of neck would appear to make it the most vulnerable part of the jaw .The incidence of condylar fractures in a large series of mandibular fractures may be as high as 35.6% .Rowe & killey 1968 incidence 32.4% (Tasanan et al 1975).

Bilateral condylar fractures account for 40%-50% of the total condylar fracture. A guardsman fracture is characterized by bilateral condylar fractures in combination with symphysis fracture and is usually seen elderly patients due to fall on chin[1].

A thorough clinical examination is important in evaluating a suspected mandibular trauma. In all types of mandibular fracture, the primary focus of the treatment is the restoration of function.

The purpose of this case report is to present the clinical, radiographic evaluation and management of bilateral condylar fracture with symphysis fracture.

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CASE REPORT

A 24 years old male reported to the Dept of oral and maxillofacial surgery, Nerul, Navi Mumbai with a history trauma due RTA. Patient was conscious, cooperative and well oriented in time, place and person post trauma. No relevant medical history given by the patient. Upon presenting surgical evaluation were done and other several extremity injuries ruled out and admitted under Dept.of OMFS.

On examination he had sustained sutured soft tissue laceration over chin ,Step deformity palpable over inferior border of mandible and bilateral tenderness present over pretragus region .Bilateral TMJ movements were in assessable. Intraorally, Mobile segment present in symphysis region with anterior open bite and deranged occlusion(Fig.1)

Radiographic examination, An computed tomography imaging showed that bilateral condylar fracture with symphyseal fracture. This fell into category of Guardsman fracture which had classical signs of bilateral condylar fracture with symphysis fracture. Shortening of ramal height and Medial displacement of condylar fragments seen in CT scans(Fig.2)

Management, Erich arch bars were placed in patient. Stay sutures were given over the extraoral laceration. patient was prepared for Open Reduction and Internal fixation with miniplates and screws in order to guide occlusion in class 1 molar relation. Patient intubated via nasal route. Asepsis maintained. Local anaesthesia with adrenaline injected. Fracture site exposed through existing laceration. IMF done. Mandible fixed using one reconstruction plate at inferior border and one 2mm plate subapically. Bilateral condylar fractures were exposed using Retromandibular approach ,reduced by restoring ramal height using Screw and Wire Technique[4] and fixed with Delta and side specific delta plates. Occlussion found to be class 1 molar relation with midlines coinciding with each other.

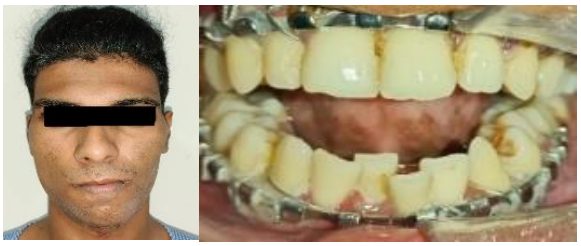

Fig . 1 Pre operative extraoral appearance and Occlusion

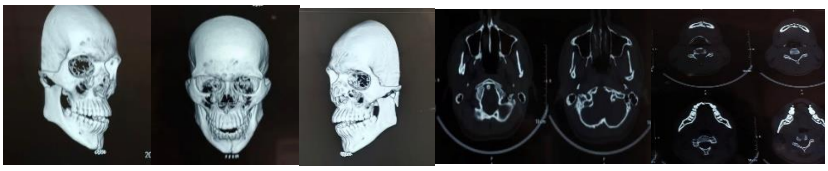

Fig .2 Pre operative scans

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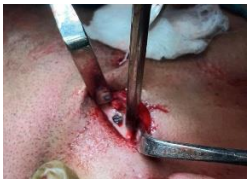

Fig . 3a Screw and Wire Technique used intra operatively for reduction

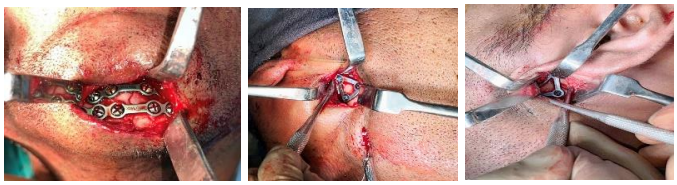

Fig . 3b Intra operative Fixation

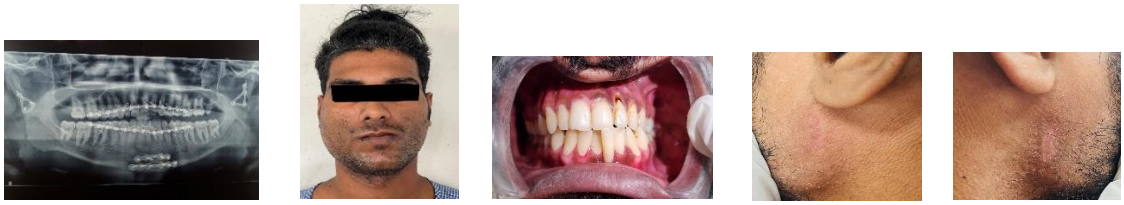

Fig .4 Post operative records

DISCUSSION

A guardsman fracture, also referred to as parade ground fracture, is one of the common forms of mandibular fracture which is caused by a fall on the midpoint of the chin resulting in fracture of the symphysis as well as both condyles[3].

The bilateral condylar fracture with symphysis fracture in adults should be treated by Open reduction. The type of treatment must be chosen on a case basis and surgeon's protocol. Various factors must be taken into consideration before the choice of treatment is made for the condylar fracture, such as location and type of fracture line, direction of dislocation of fractured fragment, occlusal stability and function, risk of facial nerve injury.Different methods of open reduction and internal fixation are there[2].

At the time of surgery, the decision has to be made about choices for osteosynthesis.

Whenever possible, two plates should ideally be used in all condylar fractures. In some high condylar fractures only one plate can be placed due to bony limitations. When two plates are used, the posterior plate is placed on the lateral surface parallel to the posterior rim. The anterior plate is placed below the sigmoid notch. Either plate can be inserted first according to the surgeon's preference. In this procedure, the posterior plate will be inserted first.

Specific plates have been designed to use for condylar fractures. The order of screw insertion is similar to that of one straight plate. The plate is first attached to the condylar fragment and then used to reduce the condylar fragment to the ramus.The plate is then fixed to the ramus.

No post operative complications were encountered. Patient was able to get full range mandibular movement and mouth opening.

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CONCLUSION

Guardsman fractures required more discussion regarding treatment. Dentate segment should be treated first followed by non dentate segment.

REFERENCES:

[1]Pothiawala S. Considering guardsman fracture as a differential in mandibular injuries. Trauma. 2022;0(0). doi:10.1177/14604086221129081

[2]Rai, A. (2021). Fractures of the Mandible. In: Bonanthaya, K., Panneerselvam, E., Manuel, S., Kumar, V.V., Rai, A. (eds) Oral and Maxillofacial Surgery for the Clinician. Springer, Singapore. https://doi.org/10.1007/978-981-15-1346-6_52

[3]Niknejad M, Mudgal P, Luijkx T, et al. Guardsman fracture. Reference article, Radiopaedia.org (Accessed on 22 Dec 2022) https://doi.org/10.53347/rID-21527

[4]Rao S, Rao S, Lalwani P. Screw and Wire Technique for Condylar Fracture Reduction. J Maxillofac Oral Surg. 2018 Mar;17(1):110-111. doi: 10.1007/s12663-017-1015-x. Epub 2017 Apr 25. PMID: 29383004; PMCID: PMC5772027.